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Notice of Allowability

Application No.

09/970,087

Examiner

Jeffrey Fredman

Applicant(s)

PISHARODY ET AL.

Art Unit

1637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to February 23, 2004.
2. ☒ The allowed claim(s) is/are 1,5,6,8-15,20-39 and 166-213.
3. ☒ The drawings filed on 02 October 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>5/19/03 & 2/23/04</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

Jeffrey Fredman
Primary Examiner
Art Unit: 1637

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Michael Shuster on April 8, 2004.

The application has been amended as follows:

Claims 1 and 166 have been amended to the claim below.

1. A molecular sensing apparatus comprising:
 - a plurality of electrode pairs, wherein the electrode pairs comprise:
 - a first electrode;
 - a second electrode; and
 - an insulator between said first electrode and said second electrode,
 - wherein said insulator comprises a channel between said first electrode and said second electrode and wherein said first electrode and said second electrode are separated by less than 30 nanometers
 - and said apparatus is configured by having parallel electrode portions to permit the formation of a plurality of independent, electrically coupled binding agent/analyte complexes electrically in parallel between said first electrode and said second electrode.

166. A molecular sensing apparatus comprising a plurality of electrode pairs in an insulating substrate,

wherein a first electrode pair in said plurality of electrode pairs comprises a first electrode and a second electrode,

wherein said first electrode and said second electrode are separated by less than 30 nanometers and said apparatus is configured by having parallel electrode portions to permit the formation of a plurality of independent, electrically coupled binding agent/analyte complexes electrically in parallel between said first electrode and said second electrode.

Claims 7, 41-165 are cancelled as drawn to non-elected inventions.

2. The following is an examiner's statement of reasons for allowance: The claimed invention is drawn to a plurality of electrode pairs, separated by less than 30 nanometers, where the pairs are in a parallel configuration such as the one shown in figure 4 of the current specification (which provides support for the claim amendments made here). The previously cited prior art, Ueda and Eichen, are significantly more than 30 nanometers apart, with Eichen being 12 micrometers or 1200 nanometers separation. The newly cited closest prior art, the Bezyradin paper, shows electrodes which are less than 30 nanometers apart in figure 3, but does not teach or suggest formation of a plurality of electrode pairs and is even further away from the concept of


placing these electrode pairs in parallel. Therefore, the claimed invention is novel and unobvious over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Fredman whose telephone number is (571)272-0742. The examiner can normally be reached on 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on (571)272-0782. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jeffrey Fredman
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Art Unit 1637